WITH THE COMPLIMENTS OF THE AUTHOR.

Adler (L. H.)

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A REPORT OF FIVE CASES OF CHRONIC MERCURIAL POISONING.

BY

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BY LEWIS H. ADLER, JR., M.D.,
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THE following cases of mercurial paralysis are interesting examples of the toxic effects of mercury upon persons brought in contact with the metal or with the vapor, and are recorded as a contribution to the literature extant upon the subject of chronic mercurial poisoning.

It will be observed that in these cases the palsy first affected the upper extremities, and then by degrees the entire muscular system. In none of the cases were the muscles of mastication and deglutition involved—this condition occurring only in very advanced cases of the disease. In only one case was there a distinct line, blue in color, upon the margin of the gums. Ankle-clonus was not present in any of the cases. In four instances the knee-jerk was exaggerated. All the cases showed marked mercurial salivation, but in no case was there any history or evidence of the cathartic effect of the drug upon the bowels.

The treatment of these cases consisted in removing the patients from surroundings in which they

would be exposed to the ingestion of more of the poison ; warm baths were ordered ; potassium iodide in gradually increasing doses was prescribed and a mild tonic, such as Basham's mixture, advised. The bowels were also carefully regulated.

CASE I.—P. M., a male, forty-five years old, married, employed in the manufacture of felt hats, presented himself for treatment in November, 1889, with the following history: He had always been a healthy man, and was the father of four robust children. For nine years he had worked in a hat factory, thus coming in more or less frequent contact with mercury, which is used in the business. For a year past he had not felt like himself and for the last six months he had steadily become worse. During this time, his teeth had loosened; his hands had become tremulous and unsteady—so much so, that he could not hold a newspaper still long enough to be able to read it with any satisfaction. Later on, his eyes began to twitch, and in attempting to read, black spots would appear and dance about before them. In walking, his gait was tremulous and unsteady. Upon being questioned, he stated that sexual power was dormant, and had been so for over a year; his weight had markedly decreased — as much as twenty-five pounds during the preceding six months; his appetite had been and still was very poor; the hair had fallen out from his face and head in considerable quantity. He also stated that he was subject to attacks of vertigo. The bowels were regular and he was not subject to diarrhea. Ptyalism was marked; speech was thick and articulation slow; his memory was poor, and his breath fetid; the border of the gums, at the margin of the teeth, was marked by a distinct *blue line;* the extremities were in a state of constant tremor.

CASE II.—John M., fourteen years old, employed in a hat manufactory, came under my observation January 9, 1890. His father stated that the lad was always healthy and full of life until the present illness, since which he had been "dead-like" in his actions. He had been employed in the hat factory for over a year, sweeping the floor and feeding the machines with fur. The history of his illness was, that four months previously he had begun to feel weak; his memory perceptibly failed, and temporary headache ensued; there were marked signs of ptyalism, as well as a bad taste in the mouth and a fetid breath. He was costive; the appetite was unimpaired. About a month later, his gait in walking became unsteady and his feet felt like lumps of lead. In attempting to pick up anything, he was obliged, for want of proper control over his movements, to make several ineffectual attempts. The appearance of the boy betokened a dull intellect. Upon extending the arms, and only then, did marked ataxic symptoms appear in the upper extremities. In walking, the legs dragged and knocked against each other. The tongue was quite tremulous upon protrusion. There was no apparent loss of power as shown by grasp of hand. The teeth were sound and perfect, the gums spongy, bleeding upon slight pressure. The breath was fetid and the salivary secretion profuse. When told to extend the arm with the index finger protruding, and to quickly touch the tip of nose, he obeyed only after an effort and in an uncertain manner, more frequently touching the face, forehead or bridge of nose. Given a pencil and told suddenly to drop it, he had great difficulty in releasing his hold of it. The patellar reflexes were greatly exaggerated, and the ankle clonus absent.

CASE III.—M. A. B., thirty-five years old, mar-

ried; also works in a hat factory. Previous to this employment he had been an hotel-keeper. As a child he was healthy. He had scarlet fever at the age of ten. He never drank to excess, but as a youth indulged freely in venery. At the age of nineteen he contracted syphilis, and was treated for this disease for nearly two years by a well-known genito-urinary surgeon of New York. He was married at the age of twenty-four, and has had five healthy children, his wife never having had a miscarriage. He has been employed in his present business for ten years. He formerly weighed 156 pounds, but since working in the hat factory he has gradually lost flesh from year to year. Soon after entering upon his duties he experienced frequent attacks of indigestion and spells of biliousness, from which affections, he tells me, most of the men in his department suffer. He also states that, whilst some men are affected with diarrhea, he, with the majority of the employés, is constipated. Another curious fact he related was that some of the workmen had no control over the passage of urine; especially was this the case among those employed for any length of time upon the mercurialized materials. The first serious attack of the patient's present trouble dates from August, 1889, at which time his weight was 106 pounds. In this seizure the fingers and hands became shaky, and this was soon followed by general tremors of the body and lower extremities. His appetite was not impaired. At night his sleep was disturbed by dreams of a horrible character and by involuntary muscular twitchings. In talking, his tongue felt thick and he had but little control over its movements. His speech was muffled and at times barely intelligible. Sensation was not impaired. In walking down stairs he experienced considerable difficulty and had a constant fear of

falling. He could ascend a flight of stairs all right. In seven weeks he returned to work, but was obliged to quit in a little over a month's time. At the suggestion of a physician, he went to the seashore and indulged in sand-baths. He improved and returned to work, at which he continued until November, 1889. At this time most of his trouble was due to his ataxic gait, though he was still affected by the general tremors. In this attack, his eyesight annoyed him considerably. In reading, letters appeared blurred and would run together. His memory failed. The appetite remained unimpaired —if anything, exaggerated and capricious, although he suffered from indigestion. The bowels were costive, but were regulated by taking a cup of hot water every morning. The gums became quite sore and the teeth loose. In December, 1889, he came under my observation, at which time his condition was as follows: He was fairly well-proportioned; there were general tremors of the body and a marked ataxic gait—the feet seeming to drag along the ground when patient attempted to walk; the strength in the hands was about normal. The breath was fetid, the teeth loose, the gums spongy; upon protrusion, the tongue was quite tremulous; the speech thick and guttural; there was no ankle clonus; the knee-jerk was exaggerated upon both sides, and upon being told to extend the index finger and forearm and to bring the tip of finger to the edge of nose, he was able to do so only after fumbling over face. The lungs and heart were normal.

CASE IV.—Martin V., sixty-three years old, married, also occupied in the manufacture of hats, presented himself for treatment January 10, 1890. His previous history was to the effect that he had always been healthy. He was married at the age of thirty-two. He had always been a steady man, had

never used liquor to excess, though, like most Germans, he indulged in his glass of beer. He chewed tobacco freely, but seldom smoked. He denies any indulgence in venery until after marriage. He came to this country in 1854, at the age of twenty-seven. In 1870—twenty years ago—he commenced work at his present occupation. For eleven years, or thereabouts, he worked at heating the irons with which the hats are burnished. During this time he felt well, with the exception of a constant cramp in the muscles of the calves of legs. He was then transferred to the fur department, where he helped to mix the solution of quicksilver and acid used to preserve the fur, and also to pack the fur into five-pound parcels. Soon after entering upon the duties of his new occupation he became dyspeptic and he noticed that his salivary secretion was freer than usual. He also had a disagreeable, metallic taste in the mouth. At the expiration of two years he felt unsteady in his movements, and had slight twitchings of the muscles of the face and upper extremities. His gums also became swollen and sore. Later on, these feelings increased in intensity and were soon followed by tremors, first noticed in the arms, then in the legs, and finally, the ataxic movements became general. He was obliged to quit work, as he could not feed nor dress himself. Under treatment he improved, and returned to the factory. The attack on account of which he sought advice had begun one week previously. The legs became heavy and felt like lumps of lead; the hands and arms became tremulous, the appetite poor and he complained of a constant drowsy feeling. He has had no diarrhea and never has been otherwise than regular in respect to movements of the bowels. He was well-preserved for one of his years. His gait in walking is best described as

ambling. The arms were ataxic and it was impossible for him to bring suddenly the tip of the index finger to the end of the nose. The knee-jerk was rather below the normal. No ankle-clonus was present. The teeth were in poor condition, loosened and very much darkened, although the patient affirmed that he had taken good care of them. There was no line upon the gums. The breath was fetid, and there were evidences of salivation. The tongue was tremulous upon protrusion, and he complained of considerable temporal headache.

CASE V.—John K., eighteen years old, employed in the same business as the other patients, came under my care in December, 1889. He did not seem to possess an over-bright mental faculty. Two and a half years previously, he started to work at manufacturing hats; he stated that at that time his physical health was good. Seven months previously he began to feel the effects of the work. His hands became unsteady and tremulous, and a month later his feet were similarly affected. The gums became sore and swollen, and salivation ensued, but the teeth did not become loosened. The memory was impaired. He was obliged to quit work two weeks before he came under my observation. The gait was markedly ataxic; upon standing or sitting, his movements were not unlike those seen in a bad case of major chorea. The tongue upon protrusion was quite tremulous, and mercurial fetor of breath was very noticeable. The gums were spongy, red and quite sensitive; the knee-jerk exaggerated, and the ankle-clonus absent.

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